

Application No.: 10/748,581

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Remarks

Claims 1-27 are pending. Claims 28-33 have been withdrawn from consideration.

Election/Restrictions

Claims 1-33 were restricted under 35 USC § 121 as follows:

- I. Claims 1-27 are said to be drawn to a composition, classified in Class 524, subclass 326.2.
- II. Claims 28-30 are said to be drawn to an article, classified in Class 428, subclass 421.
- III. Claims 31-33 are said to be drawn to a method, classified in Class 260, subclass 8+.

Groups I and II are said to be related as combination and subcombination. Groups II and III are said to be related as a process of making and a product made. Groups I and III are said to be unrelated.

Furthermore, the Patent Office has imposed an election of species requirement for the Applicants to elect between the so-called -NHNH_2 and -NHOH species.

RESPONSE TO ELECTION/RESTRICTIONS

In response to the Restriction Requirement and Election of Species Requirement, the Applicants provisionally elected Group I and the -NHNH_2 species, both with traverse via telephone on April 15, 2005. Claims 1, 2, 4-6 and 10-27 are believed to be generic to the elected species. Claims 7-9 are believed to read on the elected species. In addition, claims 28-33 are believed to be generic to the elected species.

When claim 1 is found allowable, claims 3 and 28-32 of the non-elected species should also be examined and allowed, since these claims are generic to the elected species.

The requirement for election of species was traversed, and reconsideration is hereby respectfully requested. It is felt that a search of the classes appropriate to the elected species and claims would include the Patent Office classes in which the non-elected species and claims

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would be searched, as each claim group requires. Thus, Applicants maintain the traversal and, to comply with the rules, affirm the provisional election.

With respect to the restriction requirement, Applicants submit that Groups I and III are so interrelated that a search of one group may reveal art to the other. The method claims of Group III refer to and incorporate the features of the composition of claim 1, belonging to Group I. As such, a comprehensive search of the compositions of Group I may reveal art belonging to the method of Group III. Any additional burden on the Patent Office in searching Group III with Group I is offset by the undesirable duplication of effort in searching Groups I and III separately. Thus, maintenance of the restriction requirement is not warranted in this case.

Applicants further submit that the Groups I and II claims are so interrelated that a search of one group of claims will reveal art to the other. Moreover, the classification of Groups I and II claims in different classes and subclasses is not necessarily sufficient grounds to require restriction.

Were restriction to be effected between the claims in Groups I and II, a separate examination of the claims in Groups I and II may require substantial duplication of work on the part of the U.S. Patent and Trademark Office. Even though some additional consideration would be necessary, the scope of analysis of novelty of all the claims of Groups I and II may have to be as rigorous as when only the claims of Group I were being considered by themselves. Clearly, this duplication of effort would not be warranted where these claims of different categories are so interrelated.

Finally, Applicants submit that for restriction to be effected between the claims in Groups I, II, and III, it would place an undue burden by requiring payment of a separate filing fee for examination of the nonelected claims, as well as the added costs associated with prosecuting multiple applications and maintaining multiple patents.

Nevertheless, to comply with 37 CFR 1.143, Applicants affirm the election of Group I, with traverse.

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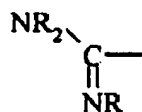
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DOUBLE PATENTING REJECTION

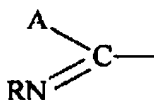
The Patent Office rejects claims 1–27 under the judicially created doctrine of obviousness-type double patenting as assertedly being unpatentable over claims 1–29 of U.S. Patent No. 6,846,880B2 [hereinafter '880].

The Patent Office asserts that both the prior art curative compounds and those in the present application are called amide-containing curatives and that they are both amidine derivatives. Furthermore, the Patent Office contends that the process for making the curatives is "similar." The Patent Office does admit, though, that the description provided in '880 differs from that of the present claims.

In particular, the Patent Office admits that the prior art general formula reveals:



where R is independently H, an optionally substituted alkyl, alkenyl, aryl, alkaryl, or alkenylaryl group. In contrast, the Patent Office admits that the teachings of the present claims are not described in the prior art. Instead, as the Patent Office indicates at page 6 of the Office Action, the provisionally elected species within the present claims relate to a general formula:



where A is NHNH_2 and R is independently H, an optionally substituted alkyl, alkenyl, aryl, alkaryl, or alkenylaryl group.

The Patent Office then asserts that the present claims do not indicate the important functionality relationship in the claimed curative. The Patent Office further asserts that the difference between the -NHNH_2 functional group of the elected species in the present claims and

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the $-NH_2$ group (when R is H) in the prior art is obvious because this particular moiety does not participate directly in the curing process.

RESPONSE TO DOUBLE PATENTING REJECTION

To make a prima facie case for obviousness-type double patenting, the Patent Office must show (1) a suggestion or motivation to modify the prior art reference to provide the claimed invention; (2) a reasonable expectation of success resulting from the proposed modification; and (3) that all claim limitations are taught or suggested by the prior art. See MPEP § 2143. The Patent Office attempts to meet this burden by suggesting that a close structural similarity between the claimed curatives and the curatives of the prior art renders the present claims prima facie obvious. See MPEP 2144.09. This suggestion is inappropriate in this case.

The Patent Office admits that all elements are not present. The Patent Office attempts to supply missing features through arguments of chemical similarity and function.

Under the MPEP, an "obviousness rejection based on similarity in chemical structure and function entails the motivation of one skilled in the art to make a claimed compound, in the expectation that compounds similar in structure will have similar properties." See MPEP 2144.09 (quoting *In re Payne*, 606 F.2d 303, 313, 203 USPQ 245, 254 (CCPA 1963)). In order to qualify under the structural similarity provisions of MPEP § 2144, compounds should be homologues (i.e., differing regularly by the successive addition of the same chemical group), structurally related by the addition or removal a common moiety (e.g., removing a ring methylene group from a cyclic compound), or have some known structure-activity relationship that renders the difference to be an obvious variant (e.g., substituting amino acids of similar structure-function in a large protein).

However, the Patent Office has not shown that the curatives described in the presently claimed compositions fall into any of these categories set out in the MPEP and therefore the rejection of the pending claims of the present invention is inappropriate. First, as the Patent Office admits, the prior art curatives describe an amidine-containing molecule with an $-NR_2$ group where R is independently H or a variety of hydrocarbon substituents. The curative described in the present claims, however, is related to an amidine molecule with an $-NHNH_2$

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group. This group does not differ from the prior art by successive addition of the same chemical group, rather it requires the addition of a chemically distinct group, to wit, $-NH_2$ rather than the R group described in the prior art. Therefore, the curatives described in the present claims have not been shown to be homologues of the cited curatives, and the rejection should be withdrawn.

Second, the Patent Office has not shown that these compounds are structurally related non-homologues. The MPEP refers to compounds that differ by the addition or subtraction of methylene groups to form a claimed six membered ring, whereas the prior art described five and seven membered rings. The present claims, in contrast, describe the addition of a moiety wholly absent from the cited teachings and descriptions. Therefore, one of ordinary skill in the art would not infer that the prior art describes, teaches, or suggests the curatives described in the pending claims.

Third, the Patent Office has not shown that there is a predictable structure-functionality relationship that would suggest the curative described in the present claims to one of ordinary skill in the art. For instance, the MPEP at 2144.09 cites the example of a claimed protein held to be obvious in light of the structural similarities with a prior art protein wherein the substitution of Ile for Lev is obvious in light of known structure-function relationships. In contrast here, the Patent Office has not met its burden of providing any basis in the prior art for the modification taught by the present claims. Thus, the Patent Office has not shown that the curative described in the presently claimed compositions is an obvious variant of that described in the prior art.

Finally, assuming, *arguendo*, the Patent Office has met its burden of showing structural similarity between the prior art and the curative described in the present claims, the decision of obviousness is rebutted because the Patent Office has not shown any reasonable expectation of similar properties between the claimed curatives and those described in the citations. The Patent Office has not pointed to any descriptions that would describe, teach, or suggest the structure-function relationship between the $-NHNH_2$ moiety in the curatives used in the presently claimed compositions and the cure rheology properties, such as those described in Table 1. The Patent Office has not shown, prior to the present application, that curatives such as those described in the present claims would function in the claimed compositions. Therefore, unlike the MPEP examples where a known structure-reactivity relationship may give rise to an expectation of

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success, the unsupported assertions by the Patent Office in the present case fail to meet the minimal requirements of an obviousness-type double patenting rejection.

In summary, the Patent Office seeks to use structural similarity as a proxy for showing (1) a suggestion or motivation to modify the prior art reference to provide the claimed invention; (2) a reasonable expectation of success resulting from the proposed modification; and (3) that all claim limitations are taught or suggested by the prior art as required by MPEP § 2143. Structural similarity must be judged, however, by the teachings of the prior art at the time the claimed subject matter was invented. The Patent Office has not met its burden of making an appropriate showing of structural similarity. Furthermore, even if, *arguendo*, it had met its burden, the Applicants have shown that there has been no showing of any reasonable expectation of similar properties between the prior art curatives and the curatives described in the presently claimed compositions.

Accordingly, the Applicants respectfully request that the obviousness-type double patenting rejection of the pending claims in view of '008 be withdrawn.

§ 103 REJECTION

Claims 1-27 also stand rejected under 35 USC § 103(a) as being unpatentable over U.S. Patent No. 6,846,880B2 to Grootaert et al.

RESPONSE TO § 103 REJECTION

The arguments made above with respect to the obviousness-type double patenting rejection are incorporated herein by reference. These arguments similarly show that the rejection of claims 1 to 27 under 35 USC § 103(a) is unwarranted and should be withdrawn.

Thus, the rejection of claims 1-27 under 35 USC § 103(a) as being unpatentable over Grootaert et al. has likewise been overcome and Applicants respectfully request that it be withdrawn.

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OTHER CITATIONS

Applicants agree that U.S. 2005 0054783A1 does not render unpatentable the subject matter of the present claims.

CONCLUSION

It is respectfully urged that the claims now pending before the Examiner are in condition for allowance. A notification of allowability for claims 1-27 is respectfully solicited. The Applicants further request, when independent claim 1 is found allowable, that claim 3, directed toward the non-elected species, be rejoined and also be found allowable. Rejoinder of the non-elected Groups II and III is also respectfully requested.

Should the Examiner determine that a telephone interview would be beneficial in resolving any of the issues in this case, the Examiner is invited to call the undersigned attorney at the telephone number noted below.

Respectfully submitted,

08-Aug-2005
Date

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